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balance of the Federal share of allowable project costs which has not already been paid. The grantee must submit the final payment request promptly after final inspection.

(f) *Assignment and release.* By its acceptance of final payment, the grantee agrees to assign to the United States the Federal share of refunds, rebates, credits or other amounts (including any interest) properly allocable to costs for which the grantee has been paid by the Government under the grant. The grantee thereby also releases and discharges the United States, its officers, agents, and employees from all liabilities, obligations, and claims arising out of the project work or under the grant, subject only to exceptions previously specified in writing between the Regional Administrator and the grantee.

(g) *Payment of costs incurred under the Uniform Relocation Assistance and Real Property Acquisition Policies Act.* Notwithstanding the provisions of paragraph (a) of this section, if the Regional Administrator determines it is necessary for the expeditious completion of a project, he may make advance payment after grant award under § 4.502(c) of this subchapter for the EPA share of the cost of any payment of relocation assistance by the grantee. The requirements in § 30.615-1 (b) and (d) of this subchapter apply to any advances of funds for assistance payments.

[43 FR 44049, Sept. 27, 1978, as amended at 44 FR 39340, July 5, 1979]

§ 35.950 Suspension, termination or annulment of grants.

Grants may be suspended under § 30.915, or terminated or annulled under § 30.920. The State agency shall be concurrently notified in writing of any such action.

§ 35.955 Grant amendments to increase grant amounts.

Grant agreements may be amended under § 30.900-1 of this chapter for project changes which have been approved under §§ 30.900 and 35.935-11 of this subchapter. However, no grant agreement may be amended to increase the amount of a grant unless the State agency has approved the grant increase

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from available State allotments and reallocations under § 35.915.

§ 35.960 Disputes.

(a) The Regional Administrator's final determination on the ineligibility of a project (see § 35.915(h)) or a grant applicant (see § 35.920-1), on the Federal share (see § 35.930-5(b)), or on any dispute arising under a grant shall be final and conclusive unless the applicant or grantee appeals within 30 days from the date of receipt of the final determination. (See subpart J of part 30 of this subchapter.)

(b) The EPA General Counsel will publish periodically as a Notice document in the FEDERAL REGISTER a digest of grant appeals decisions.

§ 35.965 Enforcement.

If the Regional Administrator determines that the grantee has failed to comply with any provision of this subpart, he may impose any of the following sanctions:

(a) The grant may be terminated or annulled under § 30.920 of this subchapter;

(b) Project costs directly related to the noncompliance may be disallowed;

(c) Payment otherwise due to the grantee of up to 10 percent may be withheld (see § 30.615-3 of this chapter);

(d) Project work may be suspended under § 30.915 of this subchapter;

(e) A noncomplying grantee may be found nonresponsible or ineligible for future Federal assistance or a noncomplying contractor may be found nonresponsible or ineligible for approval for future contract award under EPA grants;

(f) An injunction may be entered or other equitable relief afforded by a court of appropriate jurisdiction;

(g) Such other administrative or judicial action may be instituted if it is legally available and appropriate.

§ 35.970 Contract enforcement.

(a) *Regional Administrator authority.* At the request of a grantee, the Regional Administrator is authorized to provide technical and legal assistance in the administration and enforcement of any contract related to treatment works for which an EPA grant was

made and to intervene in any civil action involving the enforcement of such contracts, including contract disputes which are the subject of either arbitration or court action. Any assistance is to be provided at the discretion of the Regional Administrator and in a manner determined to best serve the public interest. Factors which the Regional Administrator may consider in determining whether to provide assistance are:

- (1) Available agency resources.
- (2) Planned or ongoing enforcement action.
- (3) The grantee's demonstration of good faith to resolve contract matters at issue.
- (4) The grantee's adequate documentation.
- (5) The Federal interest in the contract matters at issue.

(b) *Grantee request.* The grantee's request for technical or legal assistance should be submitted in writing and be accompanied by documentation adequate to inform the Regional Administrator of the nature and necessity of the requested assistance. A grantee may orally request assistance from the Regional Administrator on an emergency basis.

(c) *Privity of contract.* The Regional Administrator's technical or legal involvement in any contract dispute will not make EPA a party to any contract entered into by the grantee. (See § 35.936-8.)

(d) *Delegation to States.* The authority to provide technical and legal assistance in the administration of contract matters described in this section may be delegated to a State agency under subpart F of this part if the State agency can demonstrate that it has the appropriate legal authority to undertake such functions.

APPENDIX A TO SUBPART E OF PART 35— COST-EFFECTIVENESS ANALYSIS GUIDELINES

1. *Purpose.* These guidelines represent Agency policies and procedures for determining the most cost-effective waste treatment management system or component part.

2. *Authority.* These guidelines are provided under sections 212(2)(C) and 217 of the Clean Water Act.

3. *Applicability.* These guidelines, except as otherwise noted, apply to all facilities planning under step 1 grant assistance awarded after September 30, 1978. The guidelines also apply to State or locally financed facilities planning on which subsequent step 2 or step 3 Federal grant assistance is based.

4. *Definitions.* Terms used in these guidelines are defined as follows:

a. *Waste treatment management system.* Used synonymously with "complete waste treatment system" as defined in § 35.905 of this subpart.

b. *Cost-effectiveness analysis.* An analysis performed to determine which waste treatment management system or component part will result in the minimum total resources costs over time to meet Federal, State, or local requirements.

c. *Planning period.* The period over which a waste treatment management system is evaluated for cost-effectiveness. The planning period begins with the system's initial operation.

d. *Useful life.* The estimated period of time during which a treatment works or a component of a waste treatment management system will be operated.

e. *Disaggregation.* The process or result of breaking down a sum total of population or economic activity for a State or other jurisdiction (i.e., designated 208 area or SMSA) into smaller areas or jurisdictions.

5. *Identification, selection, and screening of alternatives.*

a. *Identification of alternatives.* All feasible alternative waste management systems shall be initially identified. These alternatives should include systems discharging to receiving waters, land application systems, on-site and other non-centralized systems, including revenue generating applications, and systems employing the reuse of wastewater and recycling of pollutants. In identifying alternatives, the applicant shall consider the possibility of no action and staged development of the system.

b. *Screening of alternatives.* The identified alternatives shall be systematically screened to determine those capable of meeting the applicable Federal, State and local criteria.

c. *Selection of alternatives.* The identified alternatives shall be initially analyzed to determine which systems have cost-effective potential and which should be fully evaluated according to the cost-effectiveness analysis procedures established in the guidelines.

d. *Extent of effort.* The extent of effort and the level of sophistication used in the cost-effectiveness analysis should reflect the project's size and importance. Where processes or techniques are claimed to be innovative technology on the basis of the cost reduction criterion contained in paragraph 6e(1) of appendix E to this subpart, a sufficiently detailed cost analysis shall be included to substantiate the claim to the satisfaction of the Regional Administrator.

6. *Cost-effectiveness analysis procedures.*

a. *Method of analysis.* The resources costs shall be determined by evaluating opportunity costs. For resources that can be expressed in monetary terms, the analysis will use the interest (discount) rate established in paragraph 6e. Monetary costs shall be calculated in terms of present worth values or equivalent annual values over the planning period defined in section 6b. The analysis shall descriptively present nonmonetary factors (e.g., social and environmental) in order to determine their significance and impact. Nonmonetary factors include primary and secondary environmental effects, implementation capability, operability, performance reliability and flexibility. Although such factors as use and recovery of energy and scarce resources and recycling of nutrients are to be included in the monetary cost analysis, the non-monetary evaluation shall also include them. The most cost-effective alternative shall be the waste treatment management system which the analysis determines to have the lowest present worth or equivalent annual value unless nonmonetary costs are overriding. The most cost-effective alternative must also meet the minimum requirements of applicable effluent limitations, groundwater protection, or other applicable standards established under the Act.

b. *Planning period.* The planning period for the cost-effectiveness analysis shall be 20 years.

c. *Elements of monetary costs.* The monetary costs to be considered shall include the total value of the resources which are attributable to the waste treatment management system or to one of its component parts. To determine these values, all monies necessary for capital construction costs and operation and maintenance costs shall be identified.

(1) Capital construction costs used in a cost-effective analysis shall include all contractors' costs of construction including overhead and profit, costs of land, relocation, and right-of-way and easement acquisition; costs of design engineering, field exploration and engineering services during construction; costs of administrative and legal services including costs of bond sales; start-up costs such as operator training; and interest during construction. Capital construction costs shall also include contingency allowances consistent with the cost estimate's level of precision and detail.

(2) The cost-effectiveness analysis shall include annual costs for operation and maintenance (including routine replacement of equipment and equipment parts). These costs shall be adequate to ensure effective and dependable operation during the system's planning period. Annual costs shall be divided between fixed annual costs and costs which would depend on the annual quantity of waste water collected and treated. Annual revenues generated by the waste treatment

management system through energy recovery, crop production, or other outputs shall be deducted from the annual costs for operation and maintenance in accordance with guidance issued by the Administrator.

d. *Prices.* The applicant shall calculate the various components of costs on the basis of market prices prevailing at the time of the cost-effectiveness analysis. The analysis shall not allow for inflation of wages and prices, except those for land, as described in paragraph 6h(1) and for natural gas. This stipulation is based on the implied assumption that prices, other than the exceptions, for resources involved in treatment works construction and operation, will tend to change over time by approximately the same percentage. Changes in the general level of prices will not affect the results of the cost-effectiveness analysis. Natural gas prices shall be escalated at a compound rate of 4 percent annually over the planning period, unless the Regional Administrator determines that the grantee has justified use of a greater or lesser percentage based upon regional differentials between historical natural gas price escalation and construction cost escalation. Land prices shall be appreciated as provided in paragraph 6h(1). Both historical data and future projections support the gas and land price escalations relative to those for other goods and services related to waste water treatment. Price escalation rates may be updated periodically in accordance with Agency guidelines.

e. *Interest (discount) rate.* The rate which the Water Resources Council establishes annually for evaluation of water resource projects shall be used.

f. *Interest during construction.* (1) Where capital expenditures can be expected to be fairly uniform during the construction period, interest during construction may be calculated at $I = 1/2PCi$ where:

I=the interest accrued during the construction period,
P=the construction period in years,
C=the total capital expenditures,
i=the interest rate (discount rate in section 6e).

(2) Where expenditures will not be uniform, or when the construction period will be greater than 4 years, interest during construction shall be calculated on a year-by-year basis.

g. *Useful life.* (1) The treatment works' useful life for a cost-effectiveness analysis shall be as follows:

Land—permanent.
Waste water conveyance structures (includes collection systems, outfall pipes, interceptors, force mains, tunnels, etc.)—50 years.
Other structures (includes plant building, concrete process tankage, basins, lift stations structures, etc.)—30-50 years.

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Process equipment—15–20 years.
Auxiliary equipment—10–15 years.

(2) Other useful life periods will be acceptable when sufficient justification can be provided. Where a system or a component is for interim service, the anticipated useful life shall be reduced to the period for interim service.

h. *Salvage value.* (1) Land purchased for treatment works, including land used as part of the treatment process or for ultimate disposal of residues, may be assumed to have a salvage value at the end of the planning period at least equal to its prevailing market value at the time of the analysis. In calculating the salvage value of land, the land value shall be appreciated at a compound rate of 3 percent annually over the planning period, unless the Regional Administrator determines that the grantee has justified the use of a greater or lesser percentage based upon historical differences between local land cost escalation and construction cost escalation. The land cost escalation rate may be updated periodically in accordance with Agency guidelines. Right-of-way easements shall be considered to have a salvage value not greater than the prevailing market value at the time of the analysis.

(2) Structures will be assumed to have a salvage value if there is a use for them at the end of the planning period. In this case, salvage value shall be estimated using straight line depreciation during the useful life of the treatment works.

(3) The method used in paragraph 6h(2) may be used to estimate salvage value at the end of the planning period for phased additions of process equipment and auxiliary equipment.

(4) When the anticipated useful life of a facility is less than 20 years (for analysis of interim facilities), salvage value can be claimed for equipment if it can be clearly demonstrated that a specific market or reuse opportunity will exist.

7. *Innovative and alternative wastewater treatment processes and techniques.*

a. Beginning October 1, 1978, the capital costs of publicly owned treatment works which use processes and techniques meeting the criteria of appendix E to this subpart and which have only a water pollution control function, may be eligible if the present worth cost of the treatment works is not more than 115 percent of the present worth cost of the most cost-effective pollution control system, exclusive of collection sewers and interceptors common to the two systems being compared, by 115 percent, except for the following situation.

b. Where innovative or alternative unit processes would serve in lieu of conventional unit processes in a conventional waste water treatment plant, and the present worth costs of the nonconventional unit processes are

less than 50 percent of the present worth costs of the treatment plant, multiply the present worth costs of the replaced conventional processes by 115 percent, and add the cost of nonreplaced unit processes.

c. The eligibility of multipurpose projects which combine a water pollution control function with another function, and which use processes and techniques meeting the criteria of appendix E to this subpart, shall be determined in accordance with guidance issued by the Administrator.

d. The above provisions exclude individual systems under §35.918. The regional Administrator may allow a grantee to apply the 15-percent preference authorized by this section to facility plans prepared under step 1 grant assistance awarded before October 1, 1978.

8. *Cost-effective staging and sizing of treatment works.*

a. *Population projections.* (1) The disaggregation of State projections of population shall be the basis for the population forecasts presented in individual facility plans, except as noted. These State projections shall be those developed in 1977 by the Bureau of Economic Analysis (BEA), Department of Commerce, unless, as of June 26, 1978, the State has already prepared projections. These State projections may be used instead of the BEA projections if the year 2000 State population does not exceed that of the BEA projection by more than 5 percent. If the difference exceeds this amount, the State must either justify or lower its projection. Justification must be based on the historical and current trends (e.g., energy and industrial development, military base openings) not taken into account in the BEA projections. The State must submit for approval to the Administrator the request and justification for use of State projections higher than the BEA projections. By that time, the State shall issue a public notice of the request. Before the Administrator's approval of the State projection, the Regional Administrator shall solicit public comments and hold a public hearing if important issues are raised about the State projection's validity. State projections and disaggregations may be updated periodically in accordance with Agency guidelines.

(2) Each State, working with designated 208 planning agencies, organizations certified by the Governor under section 174(a) of the Clean Air Act, as amended, and other regional planning agencies in the State's non-designated areas, shall disaggregate the State population projection among its designated 208 areas, other standard metropolitan statistical areas (SMSA's) not included in the 208 area, and non-SMSA counties or other appropriate jurisdictions. States that had enacted laws, as of June 26, 1978, mandating disaggregation of State population totals to each county for areawide 208 planning may retain this requirement. When

disaggregating the State population total, the State shall take into account the projected population and economic activities identified in facility plans, areawide 208 plans and municipal master plans. The sum of the disaggregated projections shall not exceed the State projection. Where a designated 208 area has, as of June 26, 1978, already prepared a population projection, it may be used if the year 2000 population does not exceed that of the disaggregated projection by more than 10 percent. The State may then increase its population projection to include all such variances rather than lower the population projection totals for the other areas. If the 208 area population forecast exceeds the 10 percent allowance, the 208 agency must lower its projection within the allowance and submit the revised projection for approval to the State and the Regional Administrator.

(3) The State projection totals and the disaggregations will be submitted as an output of the statewide water quality management process. The submission shall include a list of designated 208 areas, all SMSA's, and counties or other units outside the 208 areas. For each unit the disaggregated population shall be shown for the years 1980, 1990, and 2000. Each State will submit its projection totals and disaggregations for the Regional Administrator's approval before October 1, 1979. Before this submission, the State shall hold a public meeting on the disaggregations and shall provide public notice of the meeting consistent with part 25 of this chapter. (See § 35.917(e).)

(4) When the State projection totals and disaggregations are approved they shall be used thereafter for areawide water quality management planning as well as for facility planning and the needs surveys under section 516(b) of the Act. Within areawide 208 planning areas, the designated agencies, in consultation with the States, shall disaggregate the 208 area projections among the SMSA and non-SMSA areas and then disaggregate these SMSA and non-SMSA projections among the facility planning areas and the remaining areas. For those SMSA's not included within designated 208 planning areas, each State, with assistance from appropriate regional planning agencies, shall disaggregate the SMSA projection among the facility planning areas and the remaining areas within the SMSA. The State shall check the facility planning area forecasts to ensure reasonableness and consistency with the SMSA projections.

(5) For non-SMSA facility planning areas not included in designated areawide 208 areas, the State may disaggregate population projections for non-SMSA counties among facility planning areas and remaining areas. Otherwise, the grantee is to forecast future population growth for the facility planning area by linear extrapolation of the

recent past (1960 to present) population trends for the planning area, use of correlations of planning area growth with population growth for the township, county or other larger parent area population, or another appropriate method. A population forecast may be raised above that indicated by the extension of past trends where likely impacts (e.g., significant new energy developments, large new industries, Federal installations, or institutions) justify the difference. The facilities plan must document the justification. These population forecasts should be based on estimates of new employment to be generated. The State shall check individual population forecasts to insure consistency with overall projections for non-SMSA counties and justification for any difference from past trends.

(6) Facilities plans prepared under step 1 grant assistance awarded later than 6 months after Agency approval of the State disaggregations shall follow population forecasts developed in accordance with these guidelines.

b. *Wastewater flow estimates.* (1) In determining total average daily flow for the design of treatment works, the flows to be considered include the average daily base flows (ADBF) expected from residential sources, commercial sources, institutional sources, and industries the works will serve plus allowances for future industries and nonexcessive infiltration/inflow. The amount of non-excessive infiltration/inflow not included in the base flow estimates presented herein, is to be determined according to the Agency guidance for sewer system evaluation or Agency policy on treatment and control of combined sewer overflows (PRM 75-34).

(2) The estimation of existing and future ADBF, exclusive of flow reduction from combined residential, commercial and institutional sources, shall be based upon one of the following methods:

(a) *Preferred method.* Existing ADBF is estimated based upon a fully documented analysis of water use records adjusted for consumption and losses or on records of wastewater flows for extended dry periods less estimated dry weather infiltration. Future flows for the treatment works design should be estimated by determining the existing per capita flows based on existing sewerage resident population and multiplying this figure by the future projected population to be served. Seasonal population can be converted to equivalent full time residents using the following multipliers:

Day-use visitor.....	0.1-0.2
Seasonal visitor	0.5-0.8

The preferred method shall be used wherever water supply records or wastewater flow data exist. Allowances for future increases of per capita flow over time will not be approved.

(b) *Optional method.* Where water supply and wastewater flow data are lacking, existing and future ADBF shall be estimated by multiplying a gallon per capita per day (gpcd) allowance not exceeding those in the following table, except as noted below, by the estimated total of the existing and future resident populations to be served. The tabulated ADBF allowances, based upon several studies of municipal water use, include estimates for commercial and institutional sources as well as residential sources. The Regional Administrator may approve exceptions to the tabulated allowances where large (more than 25 percent of total estimated ADBF) commercial and institutional flows are documented.

Description	Gallons per capita per day
Non-SMSA cities and towns with projected total 10-year populations of 5,000 or less	60-70
Other cities and towns	65-80

c. *Flow reduction.* The cost-effectiveness analysis for each facility planning area shall include an evaluation of the costs, cost savings, and effects of flow reduction measures unless the existing ADBF from the area is less than 70 gpcd, or the current population of the applicant municipality is under 10,000, or the Regional Administrator exempts the area for having an effective existing flow reduction program. Flow reduction measures include public education, pricing and regulatory approaches or a combination of these. In preparing the facilities plan and included cost effectiveness analysis, the grantee shall, as a minimum:

(1) Estimate the flow reductions implementable and cost effective when the treatment works become operational and after 10 and 20 years of operation. The measures to be evaluated shall include a public information program; pricing and regulatory approaches; installation of water meters, and retrofit of toilet dams and low-flow showerheads for existing homes and other habitations; and specific changes in local ordinances, building codes or plumbing codes requiring installations of water saving devices such as water meters, water conserving toilets, showerheads, lavatory faucets, and appliances in new homes, motels, hotels, institutions, and other establishments.

(2) Estimate the costs of the proposed flow reduction measures over the 20-year planning period, including costs of public information, administration, retrofit of existing buildings and the incremental costs, if any, of installing water conserving devices in new homes and establishments.

(3) Estimate the energy reductions; total cost savings for wastewater treatment, water supply and energy use; and the net cost savings (total savings minus total costs)

attributable to the proposed flow reduction measures over the planning period. The estimated cost savings shall reflect reduced sizes of proposed wastewater treatment works plus reduced costs of future water supply facility expansions.

(4) Develop and provide for implementing a recommended flow reduction program. This shall include a public information program highlighting effective flow reduction measures, their costs, and the savings of water and costs for a typical household and for the community. In addition, the recommended program shall comprise those flow reduction measures which are cost effective, supported by the public and within the implementation authority of the grantee or another entity willing to cooperate with the grantee.

(5) Take into account in the design of the treatment works the flow reduction estimated for the recommended program.

d. *Industrial flows.* (1) The treatment works' total design flow capacity may include allowances for industrial flows. The allowances may include capacity needed for industrial flows which the existing treatment works presently serves. However, these flows shall be carefully reviewed and means of reducing them shall be considered. Letters of intent to the grantee are required to document capacity needs for existing flows from significant industrial users and for future flows from all industries intending to increase their flows or relocate in the area. Requirements for letters of intent from significant industrial dischargers are set forth in §35.925-11(c).

(2) While many uncertainties accompany forecasting future industrial flows, there is still a need to allow for some unplanned future industrial growth. Thus, the cost-effective (grant eligible) design capacity and flow of the treatment works may include (in addition to the existing industrial flows and future industrial flows documented by letters of intent) a nominal flow allowance for future nonidentifiable industries or for unplanned industrial expansions, provided that 208 plans, land use plans and zoning provide for such industrial growth. This additional allowance for future unplanned industrial flow shall not exceed 5 percent (or 10 percent for towns with less than 10,000 population) of the total design flow of the treatment works exclusive of the allowance or 25 percent of the total industrial flow (existing plus documented future), whichever is greater.

e. *Staging of treatment plants.* (1) The capacity of treatment plants (i.e., new plants, upgraded plants, or expanded plants) to be funded under the construction grants program shall not exceed that necessary for wastewater flows projected during an initial staging period determined by one of the following methods:

(a) *First method.* The grantee shall analyze at least three alternative staging periods (10

years, 15 years, and 20 years). He shall select the least costly (i.e., total present worth or average annual cost) staging period.

(b) *Second method.* The staging period shall not exceed the period which is appropriate according to the following table.

STAGING PERIODS FOR TREATMENT PLANTS

Flow growth factors (20 years) ¹	Staging period ² (years)
Less than 1.3	20
1.3 to 1.8	15
Greater than 1.8	10

¹Ratio of wastewater flow expected at end of 20 year planning period to initial flow at the time the plant is expected to become operational.

²Maximum initial staging period.

(2) A municipality may stage the construction of a treatment plant for a shorter period than the maximum allowed under this policy. A shorter staging period might be based upon environmental factors (secondary impacts, compliance with other environmental laws under §35.925–14, energy conservation, water supply), an objective concerning planned modular construction, the utilization of temporary treatment plants, or attainment of consistency with locally adopted plans including comprehensive and capital improvement plans. However, the staging period in no case may be less than 10 years, because of associated cost penalties and the time necessary to plan, apply for and receive funding, and construct later stages.

(3) The facilities plan shall present the design parameters for the proposed treatment plant. Whenever the proposed treatment plant components' size or capacity would exceed the minimum reliability requirements suggested in the EPA technical bulletin, "Design Criteria for Mechanical, Electric, and Fluid System and Component Reliability," a complete justification, including supporting data, shall be provided to the Regional Administrator for his approval.

f. *Staging of interceptors.* Since the location and length of interceptors will influence growth, interceptor routes and staging of construction shall be planned carefully. They shall be consistent with approved 208 plans, growth management plans and other environmental laws under §35.925–14 and shall also be consistent with Executive orders for flood plains and wetlands.

(1) Interceptors may be allowable for construction grant funding if they eliminate existing point source discharges and accommodate flows from existing habitations that violate an enforceable requirement of the Act. Unless necessary to meet those objectives, interceptors should not be extended into environmentally sensitive areas, prime agricultural lands and other undeveloped areas (density less than one household per 2 acres). Where extension of an interceptor

through such areas would be necessary to interconnect two or more communities, the grantee shall reassess the need for the interceptor by further consideration of alternative wastewater treatment systems. If the reassessment demonstrates a need for the interceptor, the grantee shall evaluate the interceptor's primary and secondary environmental impacts, and provide for appropriate mitigating measures such as rerouting the pipe to minimize adverse impacts or restricting future connections to the pipe. Appropriate and effective grant conditions (e.g., restricting sewer hookups) should be used where necessary to protect environmentally sensitive areas or prime agricultural lands from new development. NPDES permits shall include the conditions to insure implementation of the mitigating measures when new permits are issued to the affected treatment facilities in those cases where the measures are required to protect the treatment facilities against overloading.

(2) Interceptor pipe sizes (diameters for cylindrical pipes) allowable for construction grant funding shall be based on a staging period of 20 years. A larger pipe size corresponding to a longer staging period not to exceed 40 years may be allowed if the grantee can demonstrate, wherever water quality management plans or other plans developed for compliance with laws under §35.925–14 have been approved, that the larger pipe would be consistent with projected land use patterns in such plans and that the larger pipe would reduce overall (primary plus secondary) environmental impacts. These environmental impacts include:

(a) *Primary impacts.* (i) Short-term disruption of traffic, business and other daily activities.

(ii) Destruction of flora and fauna, noise, erosion, and sedimentation.

(b) *Secondary impacts.* (i) Pressure to rezone or otherwise facilitate unplanned development.

(ii) Pressure to accelerate growth for quicker recovery of the non-Federal share of the interceptor investments.

(iii) Effects on air quality and environmentally sensitive areas by cultural changes.

(3) The estimation of peak flows in interceptors shall be based upon the following considerations:

(a) Daily and seasonal variations of pipe flows, the timing of flows from the various parts of the tributary area, and pipe storage effects.

(b) The feasibility of off-pipe storage to reduce peak flows.

(c) The use of an appropriate peak flow factor that decreases as the average daily flow to be conveyed increases.

9. *State guidelines.* If a State has developed or chooses to develop comprehensive guidelines on cost-effective sizing and staging of

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treatment works, the Regional Administrator may approve all or portions of the State guidance for application to step 1 facility plans. Approved State guidance may be used instead of corresponding portions of these guidelines, if the following conditions are met:

a. The State guidance must be at least as stringent as the provisions of these guidelines.

b. The State must have held at least one public hearing on proposed State guidance, under regulations in part 25 of this chapter, before submitting the guidance for Agency approval.

10. *Additional capacity beyond the cost-effective capacity.* Treatment works which propose to include additional capacity beyond the cost-effective capacity determined in accordance with these guidelines may receive Federal grant assistance if the following requirements are met:

a. The facilities plan shall determine the most cost-effective treatment works and its associated capacity in accordance with these guidelines. The facilities plan shall also determine the actual characteristics and total capacity of the treatment works to be built.

b. Only a portion of the cost of the entire proposed treatment works including the additional capacity shall be eligible for Federal funding. The portion of the cost of construction which shall be eligible for Federal funding under sections 203(a) and 202(a) of the Act shall be equivalent to the estimated construction costs of the most cost-effective treatment works. For the eligibility determination, the costs of construction of the actual treatment works and the most cost-effective treatment works must be estimated on a consistent basis. Up-to-date cost curves published by EPA's Office of Water Program Operations or other cost estimating guidance shall be used to determine the cost ratios between cost-effective project components and those of the actual project. These cost ratios shall be multiplied by the step 2 cost and step 3 contract costs of actual components to determine the eligible step 2 and step 3 costs.

c. The actual treatment works to be built shall be assessed. It must be determined that the actual treatment works meets the requirements of the National Environmental Policy Act and all applicable laws, regulations, and guidance, as required of all treatment works by §§35.925-8 and 35.925-14. Particular attention should be given to assessing the project's potential secondary environmental effects and to ensuring that air quality standards will not be violated. The actual treatment works' discharge must not cause violations of water quality standards.

d. The Regional Administrator shall approve the plans, specifications, and estimates for the actual treatment works under section 203(a) of the Act, even though EPA

will be funding only a portion of its designed capacity.

e. The grantee shall satisfactorily assure the Agency that the funds for the construction costs due to the additional capacity beyond the cost-effective treatment works' capacity as determined by EPA (i.e., the ineligible portion of the treatment works), as well as the local share of the grant eligible portion of the construction costs will be available.

f. The grantee shall execute appropriate grant conditions or releases providing that the Federal Government is protected from any further claim by the grantee, the State, or any other party for any of the costs of construction due to the additional capacity.

g. Industrial cost recovery shall be based upon the portion of the Federal grant allocable to the treatment of industrial wastes.

h. The grantee must implement a user charge system which applies to the entire service area of the grantee, including any area served by the additional capacity.

APPENDIX B TO SUBPART E OF PART 35— FEDERAL GUIDELINES—USER CHARGES FOR OPERATION AND MAINTENANCE OF PUBLICLY OWNED TREATMENT WORKS

(a) *Purpose.* To set forth advisory information concerning user charges based on actual use pursuant to section 204 of the Clean Water Act, hereinafter referred to as the Act. Applicable requirements are set forth in subpart E (40 CFR part 35).

(b) *Authority.* The authority for establishment of the user charge guidelines is contained in section 204(b)(2) of the Act.

(c) *Background.* Section 204(b)(1) of the Act provides that after March 1, 1973, Federal grant applicants shall be awarded grants only after the Regional Administrator has determined that the applicant has adopted or will adopt a system of charges to assure that each recipient of waste treatment services will pay its proportionate share of the costs of operation and maintenance, including replacement. The intent of the Act with respect to user charges is to distribute the cost of operation and maintenance of publicly owned treatment works to the pollutant source and to promote self-sufficiency of treatment works with respect to operation and maintenance costs. The 1977 Amendments amended section 204(b) to allow grantees to establish user charge systems based on ad valorem taxes. This appendix does not apply to ad valorem user charge systems.

(d) *Definitions—*(1) *Replacement.* Expenditures for obtaining and installing equipment,

accessories, or appurtenances which are necessary to maintain the capacity and performance during the service life of the treatment works for which such works were designed and constructed. The term "operation and maintenance" includes replacement.

(2) *User charge.* A charge levied on users of treatment works for the cost of operation and maintenance of such works.

(e) *Classes of users.* At least two basic types of user charge systems are common. The first is to charge each user a share of the treatment works operation and maintenance costs based on his estimate of measured proportional contribution to the total treatment works loading. The second system establishes classes for users having similar flows and waste water characteristics; i.e., levels of biochemical oxygen demand, suspended solids, etc. Each class is then assigned its share of the waste treatment works operation and maintenance costs based on the proportional contribution of the class to the total treatment works loading. Either system is in compliance with these guidelines.

(f) *Criteria against which to determine the adequacy of user charges.* The user charge system shall be approved by the Regional Administrator and shall be maintained by the grantee in accordance with the following requirements:

(1) The user charge system must result in the distribution of the cost of operation and maintenance of treatment works within the grantee's jurisdiction to each user (or user class) in proportion to such user's contribution to the total wastewater loading of the treatment works. Factors such as strength, volume, and delivery flow rate characteristics shall be considered and included as the basis for the user's contribution to ensure a proportional distribution of operation and maintenance costs to each user (or user class).

(2) For the first year of operation, operation and maintenance costs shall be based upon past experience for existing treatment works or some other rational method that can be demonstrated to be applicable.

(3) The grantee shall review user charges annually and revise them periodically to reflect actual treatment works operation and maintenance costs.

(4) The user charge system must generate sufficient revenue to offset the cost of all treatment works operation and maintenance provided by the grantee.

(5) The user charge system must be incorporated in one or more municipal legislative enactments or other appropriate authority. If the project is a regional treatment works accepting wastewaters from treatment works owned by others, then the subscribers receiving waste treatment services from the grantee shall have adopted user charge systems in accordance with these guidelines.

Such user charge systems shall also be incorporated in the appropriate municipal legislative enactments or other appropriate authority.

(g) *Model user charge systems.* The user charge system adopted by the applicant must result in the distribution of treatment works operation and maintenance costs to each user (or user class) in approximate proportion to his contribution to the total wastewater loading of the treatment works. The following user charge models can be used for this purpose; however, the applicant is not limited to their use. The symbols used in the models are as defined below:

C_T = Total operation and maintenance (O. & M.) costs per unit of time.

C_u = A user's charge for O. & M. per unit of time.

C_s = A surcharge for wastewaters of excessive strength.

V_c = O&M cost for transportation and treatment of a unit of wastewater volume.

V_u = Volume contribution from a user per unit of time.

V_T = Total volume contribution from all users per unit of time.

B_c = O&M cost for treatment of a unit of biochemical oxygen demand (BOD).

B_u = Total BOD contribution from a user per unit of time.

B_T = Total BOD contribution from all users per unit of time.

B = Concentration of BOD from a user above a base level.

S_c = O&M cost for treatment of a unit of suspended solids.

S_u = Total suspended solids contribution from a user per unit of time.

S = Concentration of SS from a user above a base level.

P_c = O&M cost for treatment of a unit of any pollutant.

P_u = Total contribution of any pollutant from a user per unit of time.

P_T = Total contribution of any pollutant from all users per unit of time.

P = Concentration of any pollutant from a user above a base level.

(1) *Model No. 1.* If the treatment works is primarily flow dependent or if the BOD, suspended solids, and other pollutant concentrations discharged by all users are approximately equal, then user charges can be developed on a volume basis in accordance with the model below:

$$C_u = C_T/V_T(V_u)$$

(2) *Model No. 2.*—When BOD, suspended solids, or other pollutant concentrations from a user exceed the range of concentration of these pollutants in normal domestic sewage, a surcharge added to a base charge, calculated by means of Model No. 1, can be levied. The surcharge can be computed by the model below:

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$$C_u = [B_c(B) = S_c(S) = P_c(P)] V_u$$

(3) *Model No. 3.*—This model is commonly called the “quantity/quality formula”:

$$C_u = V_c V_u = B_c B_u = S_c S_u = P_c P_u$$

(h) *Other considerations.*—(1) Quantity discounts to large volume users will not be acceptable. Savings resulting from economies of scale should be apportioned to all users or user classes.

(2) User charges may be established based on a percentage of the charge for water usage only in cases where the water charge is based on a constant cost per unit of consumption.

[39 FR 5270, Feb. 11, 1974]

APPENDIX C-1 TO SUBPART E OF PART 35—REQUIRED PROVISIONS—CONSULTING ENGINEERING AGREEMENTS

1. General
2. Responsibility of the Engineer
3. Scope of Work
4. Changes
5. Termination
6. Remedies
7. Payment
8. Project Design
9. Audit; Access to Records
10. Price Reduction for Defective Cost or Pricing Data
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12. Labor Standards
13. Equal Employment Opportunity
14. Utilization of Small or Minority Business
15. Covenant Against Contingent Fees
16. Gratuities
17. Patents
18. Copyrights and Rights in Data

1. GENERAL

(a) The owner and the engineer agree that the following provisions apply to the EPA grant-eligible work to be performed under this agreement and that such provisions supersede any conflicting provisions of this agreement.

(b) The work under this agreement is funded in part by a grant from the U.S. Environmental Protection Agency. Neither the United States nor the U.S. Environmental Protection Agency (hereinafter, “EPA”) is a party to this agreement. This agreement which covers grant-eligible work is subject to regulations contained in 40 CFR 35.936, 35.937, and 35.939 in effect on the date of execution of this agreement. As used in these clauses, the words “the date of execution of this agreement” mean the date of execution of this agreement and any subsequent modification of the terms, compensation or scope of services pertinent to unperformed work.

(c) The owner's rights and remedies provided in these clauses are in addition to any

other rights and remedies provided by law or this agreement.

2. RESPONSIBILITY OF THE ENGINEER

(a) The engineer shall be responsible for the professional quality, technical accuracy, timely completion, and the coordination of all designs, drawings, specifications, reports, and other services furnished by the engineer under this agreement. The engineer shall, without additional compensation, correct or revise any errors, omissions, or other deficiencies in his designs, drawings, specifications, reports, and other services.

(b) The engineer shall perform such professional services as may be necessary to accomplish the work required to be performed under this agreement, in accordance with this agreement and applicable EPA requirements in effect on the date of execution of this agreement.

(c) The owner's or EPA's approval of drawings, designs, specifications, reports, and incidental engineering work or materials furnished hereunder shall not in any way relieve the engineer of responsibility for the technical adequacy of his work. Neither the owner's nor EPA's review, approval or acceptance of, nor payment for, any of the services shall be construed to operate as a waiver of any rights under this agreement or of any cause of action arising out of the performance of this agreement.

(d) The engineer shall be and shall remain liable, in accordance with applicable law, for all damages to the owner or EPA caused by the engineer's negligent performance of any of the services furnished under this agreement, except for errors, omissions or other deficiencies to the extent attributable to the owner, owner-furnished data or any third party. The engineer shall not be responsible for any time delays in the project caused by circumstances beyond the engineer's control. Where innovative processes or techniques (see 40 CFR 35.908) are recommended by the engineer and are used, the engineer shall be liable only for gross negligence to the extent of such use.

3. SCOPE OF WORK

The services to be performed by the engineer shall include all services required to complete the task or Step in accordance with applicable EPA regulations (40 CFR part 35, subpart E in effect on the date of execution of this agreement) to the extent of the scope of work as defined and set out in the engineering services agreement to which these provisions are attached.

4. CHANGES

(a) The owner may, at any time, by written order, make changes within the general scope of this agreement in the services or work to be performed. If such changes cause

an increase or decrease in the engineer's cost of, or time required for, performance of any services under this agreement, whether or not changed by any order, an equitable adjustment shall be made and this agreement shall be modified in writing accordingly. The engineer must assert any claim for adjustment under this clause in writing within 30 days from the date of receipt by the engineer of the notification of change, unless the owner grants a further period of time before the date of final payment under this agreement.

(b) No services for which an additional compensation will be charged by the engineer shall be furnished without the written authorization of the owner.

(c) In the event that there is a modification of EPA requirements relating to the services to be performed under this agreement after the date of execution of this agreement, the increased or decreased cost of performance of the services provided for in this agreement shall be reflected in an appropriate modification of this agreement.

5. TERMINATION

(a) Either party may terminate this agreement, in whole or in part, in writing, if the other party substantially fails to fulfill its obligations under this agreement through no fault of the terminating party. However, no such termination may be affected unless the other party is given (1) not less than ten (10) calendar days written notice (delivered by certified mail, return receipt requested) of intent to terminate and (2) an opportunity for consultation with the terminating party before termination.

(b) The owner may terminate this agreement, in whole or in part, in writing, for its convenience, if the termination is for good cause (such as for legal or financial reasons, major changes in the work or program requirements, initiation of a new step) and the engineer is given (1) not less than ten (10) calendar days written notice (delivered by certified mail, return receipt requested) of intent to terminate, and (2) an opportunity for consultation with the terminating party before termination.

(c) If the owner terminates for default, an equitable adjustment in the price provided for in this agreement shall be made, but (1) no amount shall be allowed for anticipated profit on unperformed services or other work, and (2) any payment due to the engineer at the time of termination may be adjusted to the extent of any additional costs the owner incurs because of the engineer's default. If the engineer terminates for default or if the owner terminates for convenience, the equitable adjustment shall include a reasonable profit for services or other work performed. The equitable adjustment for any termination shall provide for payment to the engineer for services rendered and expenses

incurred before the termination, in addition to termination settlement costs the engineer reasonably incurs relating to commitments which had become firm before the termination.

(d) Upon receipt of a termination action under paragraph (a) or (b) of this section 5., the engineer shall (1) promptly discontinue all services affected (unless the notice directs otherwise), and (2) deliver or otherwise make available to the owner all data, drawings, specifications, reports, estimates, summaries, and such other information and materials as the engineer may have accumulated in performing this agreement, whether completed or in process.

(e) Upon termination under paragraph (a) or (b) of this section 5., the owner may take over the work and prosecute the same to completion by agreement with another party or otherwise. Any work the owner takes over for completion will be completed at the owner's risk, and the owner will hold harmless the engineer from all claims and damages arising out of improper use of the engineer's work.

(f) If, after termination for failure of the engineer to fulfill contractual obligations, it is determined that the engineer had not so failed, the termination shall be deemed to have been effected for the convenience of the owner. In such event, adjustment of the price provided for in this agreement shall be made as paragraph (c) of this clause provides.

6. REMEDIES

Except as this agreement otherwise provides, all claims, counter-claims, disputes, and other matters in question between the owner and the engineer arising out of or relating to this agreement or the breach of it will be decided by arbitration if the parties hereto mutually agree, or in a court of competent jurisdiction within the State in which the owner is located.

7. PAYMENT

(a) Payment shall be made in accordance with the payment schedule incorporated in this agreement as soon as practicable upon submission of statements requesting payment by the engineer to the owner. If no such payment schedule is incorporated in this agreement, the payment provisions of paragraph (b) of this clause shall apply.

(b) The engineer may request monthly progress payments and the owner shall make them as soon as practicable upon submission of statements requesting payment by the engineer to the owner. When such progress payments are made, the owner may withhold up to ten (10) percent of the vouchered amount until satisfactory completion by the engineer of work and services within a step called for under this agreement. When the owner determines that the work under this

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agreement or any specified task hereunder is substantially complete and that the amount of retained percentages is in excess of the amount considered by him to be adequate for his protection, he shall release to the engineer such excess amount.

(c) No payment request made under paragraph (a) or (b) of this clause shall exceed the estimated amount and value of the work and services performed by the engineer under this agreement. The engineer shall prepare the estimates of work performed and shall supplement them with such supporting data as the owner may require.

(d) Upon satisfactory completion of the work performed under this agreement, as a condition precedent to final payment under this agreement or to settlement upon termination of the agreement, the engineer shall execute and deliver to the owner a release of all claims against the owner arising under or by virtue of this agreement, other than such claims, if any, as may be specifically exempted by the engineer from the operation of the release in stated amounts to be set forth therein.

8. PROJECT DESIGN

(a) In the performance of this agreement, the engineer shall, to the extent practicable, provide for maximum use of structures, machines, products, materials, construction methods, and equipment which are readily available through competitive procurement, or through standard or proven production techniques, methods, and processes, consistent with 40 CFR 35.936-3 and 35.936-13 in effect on the date of execution of this agreement, except to the extent to which innovative technology may be used under 40 CFR 35.908 in effect on the date of execution of this agreement.

(b) The engineer shall not, in the performance of the work under this agreement, produce a design or specification which would require the use of structures, machines, products, materials, construction methods, equipment, or processes which the engineer knows to be available only from a sole source, unless the engineer has adequately justified the use of a sole source in writing.

(c) The engineer shall not, in the performance of the work under this agreement, produce a design or specification which would be restrictive in violation of section 204(a)(6) of the Clean Water Act. This statute requires that no specification for bids or statement of work shall be written in such a manner as to contain proprietary, exclusionary, or discriminatory requirements other than those based upon performance, unless such requirements are necessary to test or demonstrate a specific thing, or to provide for necessary interchangeability of parts and equipment, or at least two brand names or trade names of comparable quality

or utility are listed and are followed by the words "or equal." With regard to materials, if a single material is specified, the engineer must be prepared to substantiate the basis for the selection of the material.

(d) The engineer shall report to the owner any sole-source or restrictive design or specification giving the reason or reasons why it is necessary to restrict the design or specification.

(e) The engineer shall not knowingly specify or approve the performance of work at a facility which is in violation of clean air or water standards and which is listed by the Director of the EPA Office of Federal Activities under 40 CFR part 15.

9. AUDIT; ACCESS TO RECORDS

(a) The engineer shall maintain books, records, documents, and other evidence directly pertinent to performance on EPA grant work under this agreement in accordance with generally accepted accounting principles and practices consistently applied, and 40 CFR 30.605, 30.805, and 35.935-7 in effect on the date of execution of this agreement. The engineer shall also maintain the financial information and data used by the engineer in the preparation or support of the cost submission required under 40 CFR 35.937-6(b) in effect on the date of execution of this agreement and a copy of the cost summary submitted to the owner. The U.S. Environmental Protection Agency, the Comptroller General of the United States, the U.S. Department of Labor, owner, and [the State water pollution control agency] or any of their duly authorized representatives shall have access to such books, records, documents, and other evidence for inspection, audit, and copying. The engineer will provide proper facilities for such access and inspection.

(b) The engineer agrees to include paragraphs (a) through (e) of this clause in all his contracts and all tier subcontracts directly related to project performance that are in excess of \$10,000.

(c) Audits conducted under this provision shall be in accordance with generally accepted auditing standards and established procedures and guidelines of the reviewing or audit agency(ies).

(d) The engineer agrees to the disclosure of all information and reports resulting from access to records under paragraphs (a) and (b) of this clause, to any of the agencies referred to in paragraph (a), provided that the engineer is afforded the opportunity for an audit exit conference and an opportunity to comment and submit any supporting documentation on the pertinent portions of the draft audit report and that the final audit report will include written comments of reasonable length, if any, of the engineer.

(e) The engineer shall maintain and make available records under paragraphs (a) and

(b) of this clause during performance on EPA grant work under this agreement and until 3 years from the date of final EPA grant payment for the project. In addition, those records which relate to any "Dispute" appeal under an EPA grant agreement, to litigation, to the settlement of claims arising out of such performance, or to costs or items to which an audit exception has been taken, shall be maintained and made available until 3 years after the date of resolution of such appeal, litigation, claim, or exception.

10. PRICE REDUCTION FOR DEFECTIVE COST OR PRICING DATA

(This clause is applicable if the amount of this agreement exceeds \$100,000.)

(a) If the owner or EPA determines that any price, including profit, negotiated in connection with this agreement or any cost reimbursable under this agreement was increased by any significant sums because the engineer or any subcontractor furnished incomplete or inaccurate cost or pricing data or data not current as certified in his certification of current cost or pricing data (EPA form 5700-41), then such price, cost, or profit shall be reduced accordingly and the agreement shall be modified in writing to reflect such reduction.

(b) Failure to agree on a reduction shall be subject to the remedies clause of this agreement.

(Note: Since the agreement is subject to reduction under this clause by reason of defective cost or pricing data submitted in connection with certain subcontracts, the engineer may wish to include a clause in each such subcontract requiring the subcontractor to appropriately indemnify the engineer. It is also expected that any subcontractor subject to such indemnification will generally require substantially similar indemnification for defective cost or pricing data required to be submitted by his lower tier subcontractors.)

11. SUBCONTRACTS

(a) Any subcontractors and outside associates or consultants required by the engineer in connection with services under this agreement will be limited to such individuals or firms as were specifically identified and agreed to during negotiations, or as the owner specifically authorizes during the performance of this agreement. The owner must give prior approval for any substitutions in or additions to such subcontractors, associates, or consultants.

(b) The engineer may not subcontract services in excess of thirty (30) percent (or _____ percent, if the owner and the engineer hereby agree) of the contract price to subcontractors or consultants without the owner's prior written approval.

12. LABOR STANDARDS

To the extent that this agreement involves "construction" (as defined by the Secretary of Labor), the engineer agrees that such construction work shall be subject to the following labor standards provisions, to the extent applicable:

(a) Davis-Bacon Act (40 U.S.C. 276a-276a-7);

(b) Contract Work Hours and Safety Standards Act (40 U.S.C. 327-333);

(c) Copeland Anti-Kickback Act (18 U.S.C. 874); and

(d) Executive Order 11246 (Equal Employment Opportunity);

and implementing rules, regulations, and relevant orders of the Secretary of Labor or EPA. The engineer further agrees that this agreement shall include and be subject to the "Labor Standards Provisions for Federally Assisted Construction Contracts" (EPA form 5720-4) in effect at the time of execution of this agreement.

13. EQUAL EMPLOYMENT OPPORTUNITY

In accordance with EPA policy as expressed in 40 CFR 30.420-5, the engineer agrees that he will not discriminate against any employee or applicant for employment because of race, religion, color, sex, age, or national origin.

14. UTILIZATION OF SMALL AND MINORITY BUSINESS

In accordance with EPA policy as expressed in 40 CFR 35.936-7, the engineer agrees that qualified small business and minority business enterprises shall have the maximum practicable opportunity to participate in the performance of EPA grant-assisted contracts and subcontracts.

15. COVENANT AGAINST CONTINGENT FEES

The engineer warrants that no person or selling agency has been employed or retained to solicit or secure this contract upon an agreement or understanding for a commission, percentage, brokerage, or contingent fee, excepting bona fide employees. For breach or violation of this warranty the owner shall have the right to annul this agreement without liability or in its discretion to deduct from the contract price or consideration, or otherwise recover, the full amount of such commission, percentage, brokerage, or contingent fee.

16. GRATUITIES

(a) If it is found, after notice and hearing, by the owner that the engineer, or any of the engineer's agents or representatives, offered or gave gratuities (in the form of entertainment, gifts, or otherwise), to any official, employee, or agent of the owner, of the State, or of EPA in an attempt to secure a

contract or favorable treatment in awarding, amending, or making any determinations related to the performance of this agreement, the owner may, by written notice to the engineer, terminate the right of the engineer to proceed under this agreement. The owner may also pursue other rights and remedies that the law or this agreement provides. However, the existence of the facts upon which the owner bases such findings shall be in issue and may be reviewed in proceedings under the remedies clause of this agreement.

(b) In the event this agreement is terminated as provided in paragraph (a) hereof, the owner shall be entitled: (1) To pursue the same remedies against the engineer as it could pursue in the event of a breach of the contract by the engineer, and (2) as a penalty, in addition to any other damages to which it may be entitled by law, to exemplary damages in an amount (as determined by the owner) which shall be not less than 3 nor more than 10 times the costs the engineer incurs in providing any such gratuities to any such officer or employee.

17. PATENTS

If this agreement involves research, developmental, experimental, or demonstration work and any discovery or invention arises or is developed in the course of or under this agreement, such invention or discovery shall be subject to the reporting and rights provisions of subpart D of 40 CFR part 30, in effect on the date of execution of this agreement, including appendix B of part 30. In such case, the engineer shall report the discovery or invention to EPA directly or through the owner, and shall otherwise comply with the owner's responsibilities in accordance with subpart D of 40 CFR part 30. The engineer agrees that the disposition of rights to inventions made under this agreement shall be in accordance with the terms and conditions of appendix B. The engineer shall include appropriate patent provisions to achieve the purpose of this condition in all subcontracts involving research, developmental, experimental, or demonstration work.

18. COPYRIGHTS AND RIGHTS IN DATA

(a) The engineer agrees that any plans, drawings, designs, specifications, computer programs (which are substantially paid for with EPA grant funds), technical reports, operating manuals, and other work submitted with a step 1 facilities plan or with a step 2 or step 3 grant application or which are specified to be delivered under this agreement or which are developed or produced and paid for under this agreement (referred to in this clause as "Subject Data") are subject to the rights in the United States, as set forth in subpart D of 40 CFR part 30 and in appendix C to 40 CFR part 30, in effect on the date of execution of this agreement. These rights in-

clude the right to use, duplicate, and disclose such subject data, in whole or in part, in any manner for any purpose whatsoever, and to have others do so. For purposes of this clause, "grantee" as used in appendix C refers to the engineer. If the material is copyrightable, the engineer may copyright it, as appendix C permits, subject to the rights in the Government in appendix C, but the owner and the Federal Government reserve a royalty-free, nonexclusive, and irrevocable license to reproduce, publish, and use such materials, in whole or in part, and to authorize others to do so. The engineer shall include appropriate provisions to achieve the purpose of this condition in all subcontracts expected to produce copyrightable subject data.

(b) All such subject data furnished by the engineer pursuant to this agreement are instruments of his services in respect of the project. It is understood that the engineer does not represent such subject data to be suitable for reuse on any other project or for any other purpose. If the owner reuses the subject data without the engineer's specific written verification or adaptation, such reuse will be at the risk of the owner, without liability to the engineer. Any such verification or adaptation will entitle the engineer to further compensation at rates agreed upon by the owner and the engineer.

APPENDIX C-2 TO SUBPART E OF PART 35—REQUIRED PROVISIONS—CONSTRUCTION CONTRACTS

SUPPLEMENTAL GENERAL CONDITIONS

1. General
2. Changes
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4. Suspension of Work
5. Termination for Default; Damages for Delay; Time Extensions
6. Termination for Convenience
7. Remedies
8. Labor Standards
9. Utilization of Small or Minority Business
10. Audit; Access to Records
11. Price Reduction for Defective Cost or Pricing Data
12. Covenant Against Contingent Fees
13. Gratuities
14. Patents
15. Copyrights and Rights in Data
16. Prohibition Against Listed Violating Facilities
17. Buy American

1. GENERAL

(a) The owner and the contractor agree that the following supplemental general provisions apply to the work to be performed under this contract and that these provisions supersede any conflicting provisions of this contract.

(b) This contract is funded in part by a grant from the U.S. Environmental Protection Agency. Neither the United States nor any of its departments, agencies or employees is a party to this contract. This contract is subject to regulations contained in 40 CFR 35.936, 35.938, and 35.939 in effect on the date of execution of this contract.

(c) The owner's rights and remedies provided in these clauses are in addition to any other rights and remedies provided by law or under this contract.

2. CHANGES

(a) The owner may, at any time, without notice to the sureties, by written order designated or indicated to be a change order, make any change in the work within the general scope of the contract, including but not limited to changes—

(1) In the specifications (including drawings and designs);

(2) In the method or manner of performance of the work;

(3) In the owner-furnished facilities, equipment, materials, services, or site; or

(4) Directing acceleration in the performance of the work.

(b) Any other written order or an oral order (which terms as used in this paragraph (b) shall include direction, instruction, interpretation, or determination) from the owner, which causes any such change, shall be treated as a change order under this clause, if the contractor gives the owner written notice stating the date, circumstances, and source of the order and if the contractor regards the order as a change order.

(c) Except as provided in this clause, no order, statement, or conduct of the owner shall be treated as a change under this clause or shall entitle the contractor to an equitable adjustment.

(d) If any change under this clause causes an increase or decrease in the contractor's cost of, or the time required for, the performance of any part of the work under this contract, whether or not changed by any order, an equitable adjustment shall be made and the contract modified in writing accordingly. However, except for claims based on defective specifications, no claim for any change under paragraph (b) of this section 2., shall be allowed for any costs incurred more than 20 days before the contractor gives written notice as there required. Also, in the case of defective specifications for which the owner is responsible, the equitable adjustment shall include any increased cost reasonably incurred by the contractor in attempting to comply with such defective specifications.

(e) If the contractor intends to assert a claim for an equitable adjustment under this clause, he must, within 30 days after receipt of a written change order under (a) above or the furnishing of a written notice under

paragraph (b) of this section 2., submit to the owner a written statement setting forth the general nature and monetary extent of such claim, unless the owner extends this period. The statement of claim hereunder may be included in the notice under paragraph (b) of this section 2.

(f) No claim by the contractor for an equitable adjustment hereunder shall be allowed if asserted after final payment under this contract.

3. DIFFERING SITE CONDITIONS

(a) The contractor shall promptly, and before such conditions are disturbed, notify the owner in writing of: (1) Subsurface or latent physical conditions at the site differing materially from those indicated in this contract, or (2) unknown physical conditions at the site, of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inhering in work of the character provided for in this contract. The owner shall promptly investigate the conditions. If he finds that such conditions do materially differ and cause an increase or decrease in the contractor's cost of, or the time required for, performance of any part of the work under this contract, whether or not changed as a result of such conditions, an equitable adjustment shall be made and the contract modified in writing accordingly.

(b) No claim of the contractor under this clause shall be allowed unless the contractor has given the notice required in paragraph (a) of this clause, except that the owner may extend the prescribed time.

(c) No claim by the contractor for an equitable adjustment hereunder shall be allowed if asserted after final payment under this contract.

4. SUSPENSION OF WORK

(a) The owner may order the contractor in writing to suspend, delay, or interrupt all or any part of the work for such period of time as he may determine to be appropriate for the convenience of the owner.

(b) If the performance of all or any part of the work is, for an unreasonable period of time, suspended, delayed, or interrupted by an act of the owner in administration of this contract, or by his failure to act within the time specified in this contract (or if no time is specified, within a reasonable time), an adjustment shall be made for any increase in the cost of performance of this contract (excluding profit) necessarily caused by such unreasonable suspension, delay, or interruption, and the contract modified in writing accordingly. However, no adjustment shall be made under this clause for any suspension, delay, or interruption to the extent (1) that performance would have been so suspended, delayed, or interrupted by any other

cause, including the fault or negligence of the contractor or (2) for which an equitable adjustment is provided for or excluded under any other provision of this contract.

(c) No claim under this clause shall be allowed (1) for any costs incurred more than 20 days before the contractor shall have notified the owner in writing of the act or failure to act involved (but this requirement shall not apply as to a claim resulting from a suspension order), and (2) unless the claim, in an amount stated, is asserted in writing as soon as practicable after the termination of such suspension, delay, or interruption, but not later than the date of final payment under the contract.

5. TERMINATION FOR DEFAULT; DAMAGES FOR DELAY; TIME EXTENSIONS

(a) If the contractor refuses or fails to prosecute the work, or any separable part of the work, with such diligence as will insure its completion within the time specified in this contract, or any extension thereof, or fails to complete said work within such time, the owner may, by written notice to the contractor, terminate his right to proceed with the work or such part of the work as to which there has been delay. In such event the owner may take over the work and prosecute the same to completion, by contract or otherwise, and may take possession of and use in completing the work such materials, appliances, and plant as may be on the site of the work and necessary therefor. Whether or not the contractor's right to proceed with the work is terminated, he and his sureties shall be liable for any damage to the owner resulting from his refusal or failure to complete the work within the specified time.

(b) If the contract provides for liquidated damages, and if the owner terminates the contractor's right to proceed, the resulting damage will consist of such liquidated damages until such reasonable time as may be required for final completion of the work together with any increased costs the owner incurs in completing the work.

(c) If the contract provides for liquidated damages and if the owner does not terminate the contractor's right to proceed, the resulting damage will consist of such liquidated damages until the work is completed or accepted.

(d) The contractor's right to proceed shall not be terminated nor the contractor charged with resulting damage if:

(1) The delay in the completion of the work arises from causes other than normal weather beyond the control and without the fault or negligence of the contractor, including, but not restricted to, acts of God, acts of the public enemy, acts of the owner in either its sovereign or contractual capacity, acts of another contractor in the performance of a contract with the owner, fires, floods, epidemics, quarantine restrictions, strikes,

freight embargoes, unusually severe weather, or delays of subcontractors or suppliers arising from causes other than normal weather beyond the control and without the fault or negligence of both the contractor and such subcontractors or suppliers; and

(2) The contractor, within 10 days from the beginning of any such delay (unless the owner grants a further period of time before the date of final payment under the contract), notifies the owner in writing of the causes of delay. The owner shall ascertain the facts and the extent of the delay and extend the time for completing the work when, in his judgment, the findings of fact justify such an extension. His findings of fact shall be final and conclusive on the parties, subject only to appeal as the remedies clause of this contract provides.

(e) If, after notice of termination of the contractor's right to proceed under the provisions of this clause, it is determined for any reason that the contractor was not in default under this clause, or that the delay was excusable under this clause, the rights and obligations of the parties shall be the same as if the notice of termination has been issued under the clause providing for termination for convenience of the owner.

(f) The rights and remedies of the owner provided in this clause are in addition to any other rights and remedies provided by law or under this contract.

(g) As used in paragraph (d)(1) of this clause, the term "subcontractors or suppliers" means subcontractors or suppliers at any tier.

6. TERMINATION FOR CONVENIENCE

(a) The owner may terminate the performance of work under this contract in accordance with this clause in whole, or from time to time in part, whenever the owner shall determine that such termination is in the best interest of the owner. Any such termination shall be effected by delivery to the contractor of a notice of termination specifying the extent to which performance of work under the contract is terminated, and the date upon which such termination becomes effective.

(b) After receipt of a notice of termination, and except as otherwise directed by the owner, the contractor shall:

(1) Stop work under the contract on the date and to the extent specified in the notice of termination;

(2) Place no further orders or subcontracts for materials, services, or facilities except as necessary to complete the portion of the work under the contract which is not terminated;

(3) Terminate all orders and subcontracts to the extent that they relate to the performance of work terminated by the notice of termination;

(4) Assign to the owner, in the manner, at the times, and to the extent directed by the owner, all of the right, title, and interest of the contractor under the orders and subcontracts so terminated. The owner shall have the right, in its discretion, to settle or pay any or all claims arising out of the termination of such orders and subcontracts;

(5) Settle all outstanding liabilities and all claims arising out of such termination of orders and subcontracts, with the approval or ratification of the owner to the extent he may require. His approval or ratification shall be final for all the purposes of this clause;

(6) Transfer title to the owner, and deliver in the manner, at the times, and to the extent, if any, directed by the owner, (i) the fabricated or unfabricated parts, work in process, completed work, supplies, and other material produced as a part of, or acquired in connection with the performance of, the work terminated by the notice of termination, and (ii) the completed or partially completed plans, drawings, information, and other property which, if the contract had been completed, would have been required to be furnished to the owner;

(7) Use his best efforts to sell, in the manner, at the times, to the extent, and at the price or prices that the owner directs or authorizes, any property of the types referred to in paragraph (b)(6) of this clause, but the contractor (i) shall not be required to extend credit to any purchaser, and (ii) may acquire any such property under the conditions prescribed and at a price or prices approved by the owner. The proceeds of any such transfer or disposition shall be applied in reduction of any payments to be made by the owner to the contractor under this contract or shall otherwise be credited to the price or cost of the work covered by this contract or paid in such other manner as the owner may direct;

(8) Complete performance of such part of the work as shall not have been terminated by the notice of termination; and

(9) Take such action as may be necessary, or as the owner may direct, for the protection and preservation of the property related to this contract which is in the possession of the contractor and in which the owner has or may acquire an interest.

(c) After receipt of a notice of termination, the contractor shall submit to the owner his termination claim, in the form and with the certification the owner prescribes. Such claim shall be submitted promptly but in no event later than 1 year from the effective date of termination, unless one or more extensions in writing are granted by the owner upon request of the contractor made in writing within such 1-year period or authorized extension. However, if the owner determines that the facts justify such action, he may receive and act upon any such termination claim at any time after such 1-year period or

extension. If the contractor fails to submit his termination claim within the time allowed, the owner may determine, on the basis of information available to him, the amount, if any, due to the contractor because of the termination. The owner shall then pay to the contractor the amount so determined.

(d) Subject to the provisions of paragraph (c), the contractor and the owner may agree upon the whole or any part of the amount or amounts to be paid to the contractor because of the total or partial termination of work under this clause. The amount or amounts may include a reasonable allowance for profit on work done. However, such agreed amount or amounts, exclusive of settlement costs, shall not exceed the total contract price as reduced by the amount of payments otherwise made and as further reduced by the contract price of work not terminated. The contract shall be amended accordingly, and the contractor shall be paid the agreed amount. Nothing in paragraph (e) of this clause, prescribing the amount to be paid to the contractor in the event of failure of the contractor and the owner to agree upon the whole amount to be paid to the contractor because of the termination of work under this clause, shall be deemed to limit, restrict, or otherwise determine or affect the amount or amounts which may be agreed upon to be paid to the contractor pursuant to this paragraph (d).

(e) If the contractor and the owner fail to agree, as paragraph (d) of this section 6., provides, on the whole amount to be paid to the contractor because of the termination of work under this clause, the owner shall determine, on the basis of information available to him, the amount, if any, due to the contractor by reason of the termination and shall pay to the contractor the amounts determined as follows:

(1) For all contract work performed before the effective date of the notice of termination, the total (without duplication of any items) of—

(i) The cost of such work;

(ii) The cost of settling and paying claims arising out of the termination of work under subcontracts or orders as paragraph (b)(5) of this clause provides. This cost is exclusive of the amounts paid or payable on account of supplies or materials delivered or services furnished by the subcontractor before the effective date of the notice of termination. These amounts shall be included in the cost on account of which payment is made under paragraph (1)(i) of this section 6.; and

(iii) A sum, as profit on paragraph (1)(i) of this section 6., that the owner determines to be fair and reasonable. But, if it appears that the contractor would have sustained a loss on the entire contract had it been completed, no profit shall be included or allowed under this paragraph (1)(iii) of this section 6., and

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an appropriate adjustment shall be made reducing the amount of the settlement to reflect the indicated rate of loss; and

(2) The reasonable cost of the preservation and protection of property incurred under paragraph (b)(9) of this clause; and any other reasonable cost incidental to termination of work under this contract, including expense incidental to the determination of the amount due to the contractor as the result of the termination of work under this contract. The total sum to be paid to the contractor under paragraph (e)(1) of this clause shall not exceed the total contract price as reduced by the amount of payments otherwise made and as further reduced by the contract price of work not terminated. Except for normal spoilage, and except to the extent that the owner shall have otherwise expressly assumed the risk of loss, there shall be excluded from the amounts payable to the contractor under paragraph (1) of this clause 6., the fair value, as determined by the owner of property which is destroyed, lost, stolen, or damaged, to the extent that it is undeliverable to the owner, or to a buyer under paragraph (b)(7) of this clause.

(f) The contractor shall have the right to dispute under the clause of this contract entitled "Remedies," from any determination the owner makes under paragraph (c) or (e) of this clause. But, if the contractor has failed to submit his claim within the time provided in paragraph (c) of this clause and has failed to request extension of such time, he shall have no such right of appeal. In any case where the owner has determined the amount due under paragraph (c) or (e) of this clause, the owner shall pay to the contractor the following: (1) If there is no right of appeal hereunder or if no timely appeal has been taken, the amount so determined by the owner or (2) if a "Remedies" proceeding is initiated, the amount finally determined in such "Remedies" proceeding.

(g) In arriving at the amount due the contractor under this clause there shall be deducted (1) all unliquidated advance or other payments on account theretofore made to the contractor, applicable to the terminated portion of this contract, (2) any claim which the owner may have against the contractor in connection with this contract, and (3) the agreed price for, or the proceeds of sale of, any materials, supplies, or other things kept by the contractor or sold, under the provisions of this clause, and not otherwise recovered by or credited to the owner.

(h) If the termination hereunder be partial, before the settlement of the terminated portion of this contract, the contractor may file with the owner a request in writing for an equitable adjustment of the price or prices specified in the contract relating to the continued portion of the contract (the portion not terminated by the notice of termination). Such equitable adjustment as may

be agreed upon shall be made in the price or prices. Nothing contained herein shall limit the right of the owner and the contractor to agree upon the amount or amounts to be paid to the contractor for the completion of the continued portion of the contract when the contract does not contain an established contract price for the continued portion.

7. REMEDIES

Unless this contract provides otherwise, all claims, counterclaims, disputes and other matters in question between the owner and the contractor arising out of or relating to this agreement or its breach will be decided by arbitration if the parties mutually agree, or in a court of competent jurisdiction within the State in which the owner is located.

8. LABOR STANDARDS

The contractor agrees that "construction" work (as defined by the Secretary of Labor) shall be subject to the following labor standards provisions, to the extent applicable:

(a) Davis-Bacon Act (40 U.S.C. 276a-276a-7);

(b) Contract Work Hours and Safety Standards Act (40 U.S.C. 327-33);

(c) Copeland Anti-Kickback Act (18 U.S.C. 874); and

(d) Executive Order 11246 (equal employment opportunity);

and implementing rules, regulations, and relevant orders of the Secretary of Labor or EPA. The contractor further agrees that this contract shall include and be subject to the "Labor Standards Provisions for Federally assisted Construction Contracts" (EPA form 5720-4) in effect at the time of execution of this agreement.

9. UTILIZATION OF SMALL AND MINORITY BUSINESS

In accordance with EPA policy as expressed in 40 CFR 35.936-7, the contractor agrees that small business and minority business enterprises shall have the maximum practicable opportunity to participate in the performance of EPA grant-assisted contracts and subcontracts.

10. AUDIT; ACCESS TO RECORDS

(a) The contractor shall maintain books, records, documents and other evidence directly pertinent to performance on EPA grant work under this contract in accordance with generally accepted accounting principles and practices consistently applied, and 40 CFR 30.605, 30.805, and 35.935-7 in effect on the date of execution of this contract. The contractor shall also maintain the financial information and data used by the contractor in the preparation or support of the cost submission required under 40 CFR 35.938-5 in effect on the date of execution of this contract for any negotiated contract or

change order and a copy of the cost summary submitted to the owner. The U.S. Environmental Protection Agency, the Comptroller General of the United States, the U.S. Department of Labor, owner, and (the State water pollution control agency) or any of their authorized representatives shall have access to such books, records, documents and other evidence for the purpose of inspection, audit and copying. The contractor will provide proper facilities for such access and inspection.

(b) If this contract is a formally advertised, competitively awarded, fixed price contract, the contractor agrees to make paragraphs (a) through (f) of this clause applicable to all negotiated change orders and contract amendments affecting the contract price. In the case of all other types of prime contracts, the contractor agrees to include paragraphs (a) through (f) of this clause in all his contracts in excess of \$10,000 and all tier subcontracts in excess of \$10,000 and to make paragraphs (a) through (f) of this clause applicable to all change orders directly related to project performance.

(c) Audits conducted under this provision shall be in accordance with generally accepted auditing standards and established procedures and guidelines of the reviewing or audit agency(ies).

(d) The contractor agrees to the disclosure of all information and reports resulting from access to records under paragraphs (a) and (b) of this clause, to any of the agencies referred to in paragraph (a) of this clause 10., provided that the contractor is afforded the opportunity for an audit exit conference, and an opportunity to comment and submit any supporting documentation on the pertinent portions of the draft audit report and that the final EPA audit report will include written comments of reasonable length, if any, of the contractor.

(e) Records under paragraphs (a) and (b) of this clause 10., shall be maintained and made available during performance on EPA grant work under this contract and until 3 years from the date of final EPA grant payment for the project. In addition, those records which relate to any "Dispute" appeal under an EPA grant agreement, to litigation, to the settlement of claims arising out of such performance, or to costs or items to which an audit exception has been taken, shall be maintained and made available until three years after the date of resolution of such appeal, litigation, claim or exception.

(f) The right of access which this clause confers will generally be exercised (with respect to financial records) under (1) negotiated prime contracts, (2) negotiated change orders or contract amendments in excess of \$10,000 affecting the price of any formally advertised, competitively awarded, fixed price contract, and (3) subcontracts or purchase orders under any contract other than a for-

mally advertised, competitively awarded, fixed price contract. However, this right of access will generally not be exercised with respect to a prime contract, subcontract, or purchase order awarded after effective price competition. In any event, such right of access may be exercised under any type of contract or subcontract (1) with respect to records pertaining directly to contract performance, excluding any financial records of the contractor, (2) if there is any indication that fraud, gross abuse, or corrupt practices may be involved or (3) if the contract is terminated for default or for convenience.

11. PRICE REDUCTION FOR DEFECTIVE COST OR PRICING DATA

(This clause is applicable to (1) any negotiated prime contract in excess of \$100,000; (2) negotiated contract amendments or change orders in excess of \$100,000 affecting the price of a formally advertised, competitively awarded, fixed price contract; or (3) any subcontract or purchase order in excess of \$100,000 under a prime contract other than a formally advertised, competitively awarded, fixed price contract. Change orders shall be determined to be in excess of \$100,000 in accordance with 40 CFR 35.938-5(g). However, this clause is not applicable for contracts or subcontracts to the extent that they are awarded on the basis of effective price competition.)

(a) If the owner or EPA determines that any price (including profit) negotiated in connection with this contract, or any cost reimbursable under this contract, was increased by any significant sums because the contractor, or any subcontractor furnished incomplete or inaccurate cost or pricing data or data not current as certified in his certification of current cost or pricing data (EPA form 5700-41), then such price or cost or profit shall be reduced accordingly and the contract shall be modified in writing to reflect such reduction.

(b) Failure to agree on a reduction shall be subject to the Remedies clause of this contract.

(Note: Since the contract is subject to reduction under this clause by reason of defective cost or pricing data submitted in connection with certain subcontracts, the contractor may wish to include a clause in each such subcontract requiring the subcontractor to appropriately indemnify the contractor. It is also expected that any subcontractor subject to such indemnification will generally require substantially similar indemnification for defective cost or pricing data required to be submitted by his lower tier subcontractors.)

12. COVENANT AGAINST CONTINGENT FEES

The contractor warrants that no person or selling agency has been employed or retained to solicit or secure this contract upon an

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agreement or understanding for a commission, percentage, brokerage, or contingent fee, excepting bona fide employees or bona fide established commercial or selling agencies maintained by the contractor for the purpose of securing business. For breach or violation of this warranty the owner shall have the right to annul this contract without liability or in its discretion to deduct from the contract price or consideration, or otherwise recover, the full amount of such commission, percentage, brokerage, or contingent fee.

13. GRATUITIES

(a) If the owner finds, after notice and hearing, that the contractor or any of the contractor's agents or representatives offered or gave gratuities (in the form of entertainment, gifts, or otherwise) to any official, employee or agent of the owner, of the State, or of EPA in an attempt to secure a contract or favorable treatment in the awarding, amending, or making any determinations related to the performance of this contract, the owner may, by written notice to the contractor, terminate the right of the contractor to proceed under this contract. The owner may also pursue other rights and remedies that the law or this contract provides. However, the existence of the facts upon which the owner makes such findings shall be in issue and may be reviewed in proceedings under the remedies clause of this contract.

(b) In the event this contract is terminated as provided in paragraph (a) of this clause, the owner shall be entitled (1) to pursue the same remedies against the contractor as it could pursue in the event of a breach of the contract by the contractor, and (2) as a penalty in addition to any other damages to which it may be entitled by law, to exemplary damages in an amount (as determined by the owner) which shall be not less than 3 nor more than 10 times the costs the contractor incurs in providing any such gratuities to any such officer or employee.

14. PATENTS

If this contract involves research, developmental, experimental, or demonstration work, and any discovery or invention arises or is developed in the course of or under this contract, such invention or discovery shall be subject to the reporting and rights provisions of subpart D of 40 CFR part 30, in effect on the date of execution of this contract, including appendix B of part 30. In such case, the contractor shall report the discovery or invention to EPA directly or through the owner, and shall otherwise comply with the owner's responsibilities in accordance with subpart D of 40 CFR part 30. The contractor agrees that the disposition of rights to inventions made under this contract shall be

in accordance with the terms and conditions of appendix B. The contractor shall include appropriate patent provisions to achieve the intent of this condition in all subcontracts involving research, developmental, experimental, or demonstration work.

15. COPYRIGHTS AND RIGHTS IN DATA

The contractor agrees that any plans, drawings, designs, specifications, computer programs (which are substantially paid for with EPA grant funds), technical reports, operating manuals, and other work submitted with a proposal or grant application or which are specified to be delivered under this contract or which are developed or produced and paid for under this contract (referred to in this clause as "Subject Data") are subject to the rights in the United States, as set forth in subpart D of 40 CFR part 30 and in appendix C to 40 CFR part 30, in effect on the date of execution of this contract. These rights include the right to use, duplicate and disclose such Subject Data, in whole or in part, in any manner for any purpose whatsoever, and to have others do so. For purposes of this clause, "grantee" as used in appendix C refers to the contractor. If the material is copyrightable, the contractor may copyright it, as appendix C permits, subject to the rights in the Government as set forth in appendix C, but the owner and the Federal Government reserve a royalty-free, nonexclusive, and irrevocable license to reproduce, publish and use such materials, in whole or in part, and to authorize others to do so. The contractor shall include provisions appropriate to achieve the intent of this condition in all subcontracts expected to produce copyrightable Subject Data.

16. PROHIBITION AGAINST LISTED VIOLATING FACILITIES

(Applicable only to a contract in excess of \$100,000 and when otherwise applicable under 40 CFR part 15.)

(a) The contractor agrees as follows:

(1) To comply with all the requirements of section 114 of the Clean Air Act, as amended (42 U.S.C. 1857, *et seq.*, as amended by Pub. L. 92-604) and section 308 of the Clean Water Act (33 U.S.C. 1251, as amended), respectively, which relate to inspection, monitoring, entry, reports, and information, as well as other requirements specified in section 114 and section 308 of the Air Act and the Water Act, respectively, and all regulations and guidelines issued thereunder before the award of this contract.

(2) That no portion of the work required by this prime contract will be performed in a facility listed on the Environmental Protection Agency list of violating facilities on the date when this contract was awarded unless and until the EPA eliminates the name of such facility or facilities from the listing.

(3) To use his best efforts to comply with clean air and clean water standards at the facilities in which the contract is being performed.

(4) To insert the substance of the provisions of this clause, including this paragraph (4), in any nonexempt subcontract.

(b) The terms used in this clause have the following meanings:

(1) The term *Air Act* means the Clean Air Act, as amended (42 U.S.C. 1857 *et seq.*).

(2) The term *Water Act* means the Clean Water Act, as amended (33 U.S.C. 1251 *et seq.*).

(3) The term *Clean Air Standards* means any enforceable rules, regulations, guidelines, standards, limitations, orders, controls, prohibitions, or other requirements which are contained in, issued under, or otherwise adopted under the Air Act or Executive Order 11738, an applicable implementation plan as described in section 110(d) of the Air Act (42 U.S.C. 1857c-5(d)), an approved implementation procedure or plan under section 111(c) or section 111(d), or an approved implementation procedure under section 112(d) of the Air Act (42 U.S.C. 1857c-7(d)).

(4) The term *Clean Water Standards* means any enforceable limitation, control, condition, prohibition, standard, or other requirement which is promulgated under the Water Act or contained in a permit issued to a discharger by the Environmental Protection Agency or by a State under an approved program, as authorized by section 402 of the Water Act (33 U.S.C. 1342), or by a local government to ensure compliance with pretreatment regulations as required by section 307 of the Water Act (33 U.S.C. 1317).

(5) The term *Compliance* means compliance with clean air or water standards. Compliance shall also mean compliance with a schedule or plan ordered or approved by a court of competent jurisdiction, the Environmental Protection Agency or an Air or Water Pollution Control Agency in accordance with the requirements of the Air Act or Water Act and regulations.

(6) The term *Facility* means any building, plant, installation, structure, mine, vessel, or other floating craft, location, or site of operations, owned, leased, or supervised by a contractor or subcontractor, to be used in the performance of a contract or subcontract. Where a location or site of operations contains or includes more than one building, plant, installation, or structure, the entire location or site shall be deemed to be a facility except where the Director, Office of Federal Activities, Environmental Protection Agency, determines that independent facilities are located in one geographical area.

17. BUY AMERICAN

In accordance with section 215 of the Clean Water Act, and implementing EPA regulations and guidelines, the contractor agrees

that preference will be given to domestic construction material by the contractor, subcontractors, materialmen, and suppliers in the performance of this contract.

[43 FR 44049, Sept. 27, 1978, as amended at 44 FR 37596, June 27, 1979; 44 FR 39340, July 5, 1979]

APPENDIX D TO SUBPART E OF PART 35— EPA TRANSITION POLICY—EXISTING CONSULTING ENGINEERING AGREEMENTS

A. ACCESS TO RECORDS—AUDIT

1. *Access clause.* After June 30, 1975, a construction grant for Steps 1, 2 or 3 will not be awarded nor will initiation of Step 1 work be approved under 40 CFR 35.917(e) or 35.925-18(a)(3), unless an acceptable records and access clause is included in the consulting engineering subagreement. The clause contained in appendix C-1 shall be used on or after March 1, 1976. The clause required by former PG-53 or approved as an alternate thereto may be used for all contracts under grants awarded before March 1, 1976.

2. *EPA exercise of right of access to records.* Under applicable statutory and regulatory provisions, EPA has a broad right of access to grantees' consulting engineers' records pertinent to performance of EPA project work. The extent to which EPA will exercise this right of access will depend upon the nature of the records and upon the type of agreement.

a. In order to determine where EPA shall exercise its right of access, engineers' project-related records have been divided into three categories:

(1) *Category A:* Records that pertain directly to the professional, technical and other services performed, excluding any type of financial records of the consulting engineer.

(2) *Category B:* Financial records of the consulting engineer pertaining to the direct costs of professional, technical and other services performed, excluding financial records pertaining to profit and overhead or other indirect costs.

(3) *Category C:* Financial records of the consulting engineer excluded from category B.

b. In all cases, EPA will exercise its right of access to Category A records. Also, where there is an indication that fraud, gross abuse, or corrupt practices may be involved, EPA will exercise its right of access to records in all categories. Otherwise, access to consulting engineers' financial records (categories B and C) will depend principally upon the method(s) of compensation stipulated in the agreement:

(1) *Agreements based upon a percentage of construction cost.* Category B and C records will not be audited. However, terms of the

agreement, including the total amount of compensation, will be evaluated for fairness, reasonableness, and consistency with historical and advisory guidelines in general use and acceptable locally. These guidelines include those in ASCE manual 45 or other analyses or data which the contracting parties relied on or used in negotiation of the agreement. Such evaluation shall also consider comparable contracts for which EPA grants have been awarded.

(2) *Agreements based upon salary cost times a multiplier including profit.* Category B records will be audited. Category C records will not be audited. However, terms of the agreement, including the total amount of compensation and the multiplier, will be evaluated for fairness and reasonableness and consistency with historical and advisory guidelines in general use and acceptable locally. These guidelines include those in ASCE manual 45 or other analyses or data which the contracting parties relied on or used in negotiation of the agreement. Such evaluation shall also consider comparable contracts for which EPA grants have been awarded. Items of overhead or other indirect costs will only be audited to the extent necessary to assure that types of costs found both in overhead and reimbursable direct costs, if any, are properly charged.

(3) *Per diem agreements.* Category B records will be audited. Category C records will not be audited. Audit will be performed to the extent necessary to determine that hours claimed and classes of personnel used were properly supported. The per diem rates will be evaluated according to the appropriate portions of paragraphs A.2.b. (1) and (2) of this appendix.

(4) *Cost plus a fixed fee (profit).* All direct costs, overhead, and other indirect costs claimed will be audited to determine that they are reasonable, allowable, and properly supported by the consulting engineer's records. The amount of fixed fee will not be questioned unless the total compensation appears unreasonable when evaluated according to paragraphs A.2.b. (1) and (2) of this appendix.

(5) *Fixed price lump sum contracts.* Category B and C records will not be audited. The contract amount will not be questioned unless the total compensation appears unreasonable when evaluated in accordance with appropriate portions of paragraphs A.2.b. (1) and (2) of this appendix.

c. If an agreement covers both grant-eligible and ineligible work, access to records will be exercised to the extent necessary to allocate contract work or costs between work grant-eligible for title II construction grant assistance and ineligible work or costs.

d. Under agreements that use two or more methods of compensation, each part of the agreement will be separately audited accord-

ing to the appropriate paragraph of paragraph (b)(2) of this section.

e. Any audited firm and the grantee will be afforded opportunity for an audit exit conference and an opportunity to receive and comment upon the pertinent portions of each draft audit report. The final audit report will include the written comments, if any, of the audited parties in addition to those of the appropriate State and/or Federal agency(ies).

B. TYPE OF CONTRACT

1. The percentage-of-construction-cost type of contract, and the multiplier contract, where the multiplier includes profit, may not be used for step 1 or step 2 work initiated after June 30, 1975, when the step 1 or step 2 grant is awarded after June 30, 1975. (A multiplier type of compensation may be used only under acceptable types of contracts; see 40 CFR 35.937-1(d).)

2. Step 1 and step 2 work performed under the percentage-of-construction-cost type of contract and the multiplier contract, where the multiplier includes profit, will be reimbursed and such contracts will not be questioned where such costs are reimbursed in conjunction with a step 3 grant award within the scope of step 2 work contracted for prior to July 1, 1975. However, the current step 2 work will not be continued indefinitely for multiple, subsequent step 3 projects in order to avoid modifying the consultant agreement.

3. Where step 2 work is initiated after June 30, 1975, under contracts prohibited by paragraphs B.1. and B.2. of this appendix, EPA approval may not be given nor grant assistance awarded until the contract's terms of compensation have been renegotiated.

4. Establishing an "upset" figure (an upper limit which cannot be exceeded without a formal amendment to the agreement) under a multiplier contract, where the multiplier includes profit, is not acceptable where renegotiation of such contracts is required. In such renegotiation, the amount of profit must be specifically identified.

5. Total allowable contract costs for grant payment for a contract based on a percentage-of-construction-cost will be based on the following:

a. Where work for the design step is essentially continuous from start of design to bidding, and bid opening for step 3 construction occurs within 1 year after substantial completion of step 2 design work, the total allowable contract costs for grant payment may not exceed an amount based upon the low, responsive, responsible bid for construction.

b. Where work for the design step is not essentially continuous from start of design to bidding, or 1 year or more elapses between substantial completion of step 2 design work and bid opening for step 3 construction, the

total allowable contract costs for grant payment may not exceed an amount based upon the lower of:

(1) The consulting engineer's construction cost estimate provided at the time of such substantial completion plus an escalation of this construction cost estimate of up to 5 percent, but not to exceed the consulting engineer's total compensation based on the low, responsive, responsible bid for construction, or

(2) The consulting engineer's construction cost estimate provided at the time of such substantial completion plus a consulting engineer's compensation escalation not to exceed \$50,000, but not to exceed the consulting engineer's total compensation based upon the low, responsive, responsible bid for construction.

c. Where the low, responsive, responsible bid for construction would have resulted in a higher consulting engineer's total compensation than paragraph b. of this clause, provides, the Regional Administrator may also consider a reasonable additional compensation for updating the plans and specifications, revising cost estimates, or similar services.

d. The limitations of paragraph B5 apply to all grants awarded under subpart E except that—

(1) If the Regional Administrator had made final payment on a project before December 17, 1975, the limitations do not apply; and

(2) For other projects on which construction for the building and erection of a treatment works was initiated prior to December 17, 1975, the limitations do not apply to any request for engineering fee increases attributable to construction contract awards or change orders approved by the grantee prior to December 17, 1975.

6. Where renegotiation is required under this appendix D, such renegotiation is subject to 40 CFR 35.937-1, 35.937-6, 35.937-7, 35.937-9, and 35.937-10.

C. ANNOUNCEMENT AND SELECTION

The requirements of 40 CFR 35.937-2 through 35.937-4 shall not apply to step 1 work where the step 1 grant was awarded or the initiation of step 1 work was approved by EPA (under 40 CFR 35.917(e)) before March 1, 1976, nor to subsequent step 2 and step 3 work in accordance with 40 CFR 35.937-2(d), if the grantee is satisfied with the qualifications and performance of the engineer employed.

D. REQUIRED CONSULTING ENGINEERING PROVISIONS

Effective March 1, 1976, the subagreement clauses required under appendix C-1 must be included in the consulting engineering subagreement before grant assistance for step 1, 2 or 3 will be awarded and before initiation of

step 1 work will be approved under 40 CFR 35.917(e) or 35.925-18(a) 3.

E. ENFORCEMENT

1. Refusal by a consulting engineer to insert the required access clause, or to allow access to its records, or to renegotiate a consulting engineering contract according to the foregoing requirements, will render costs incurred under such contract unallowable. Accordingly, all such costs will be questioned and disallowed pending compliance with this appendix.

2. Where the Regional Administrator determines that the time required to comply with the access to records and type of contract provisions of this appendix will unduly delay award of grant assistance, he may award the grant assistance conditioned upon compliance with this appendix within a specified period of time. In such event, no grant payments for the affected engineering work may be made until such compliance has been obtained.

APPENDIX E TO SUBPART E OF PART 35— INNOVATIVE AND ALTERNATIVE TECHNOLOGY GUIDELINES

1. *Purpose.* These guidelines provide the criteria for identifying and evaluating innovative and alternative waste water treatment processes and techniques. The Administrator may publish additional information.

2. *Authority.* These guidelines are provided under section 304(d)(3) of the Clean Water Act.

3. *Applicability.* These guidelines apply to:

a. The analysis of innovative and alternative treatment processes and techniques under §35.917-1(d)(8);

b. Increased grants for eligible treatment works under §§35.930-5 (b) and (c) and 35.908(b)(1);

c. The funding available for innovative and alternative processes and techniques under §35.915-1(b);

d. The funding available for alternatives to conventional treatment works for small communities under §35.915-1(e);

e. The cost-effectiveness preference given innovative and alternative processes and techniques in section 7 of appendix A to this subpart;

f. The treatment works that may be given higher priority on State project priority lists under §35.915(a)(1)(iii);

g. Alternative and innovative treatment systems in connection with Federal facilities;

h. Individual systems authorized by §35.918, as modified in that section to include unconventional or innovative sewers;

i. The access and reports conditions in §35.935-20.

4. *Alternative processes and techniques.* Alternative waste water treatment processes

and techniques are proven methods which provide for the reclaiming and reuse of water, productively recycle waste water constituents or otherwise eliminate the discharge of pollutants, or recover energy.

a. In the case of processes and techniques for the treatment of effluents, these include land treatment, aquifer recharge, aquaculture, silviculture, and direct reuse for industrial and other nonpotable purposes, horticulture and revegetation of disturbed land. Total containment ponds and ponds for the treatment and storage of waste water prior to land application and other processes necessary to provide minimum levels of preapplication treatment are considered to be part of alternative technology systems for the purpose of this section.

b. For sludges, these include land application for horticultural, silvicultural, or agricultural purposes (including supplemental processing by means such as composting or drying), and revegetation of disturbed lands.

c. Energy recovery facilities include codisposal measures for sludge and refuse which produce energy; anaerobic digestion facilities (*Provided*, That more than 90 percent of the methane gas is recovered and used as fuel); and equipment which provides for the use of digester gas within the treatment works. Self-sustaining incineration may also be included provided that the energy recovered and productively used is greater than the energy consumed to dewater the sludge to an autogenous state.

d. Also included are individual and other onsite treatment systems with subsurface or other means of effluent disposal and facilities constructed for the specific purpose of septage treatment.

e. The term "alternative" as used in these guidelines includes the terms "unconventional" and "alternative to conventional" as used in the Act.

f. The term "alternative" does not include collector sewers, interceptors, storm or sanitary sewers or the separation thereof; or major sewer rehabilitation, except insofar as they are alternatives to conventional treatment works for small communities under §35.915-1(e) or part of individual systems under §35.918.

5. *Innovative processes and techniques.* Innovative waste water treatment processes and techniques are developed methods which have not been fully proven under the circumstances of their contemplated use and which represent a significant advancement over the state of the art in terms of meeting the national goals of cost reduction, increased energy conservation or recovery, greater recycling and conservation of water resources (including preventing the mixing of pollutants with water), reclamation or reuse of effluents and resources (including increased productivity of arid lands), improved efficiency and/or reliability, the bene-

ficial use of sludges or effluent constituents, better management of toxic materials or increased environmental benefits. For the purpose of these guidelines, innovative waste water treatment processes and techniques are generally limited to new and improved applications of those alternative processes and techniques identified in accordance with paragraph 4 of these guidelines, including both treatment at centralized facilities and individual and other onsite treatment. Treatment processes based on the conventional concept of treatment (by means of biological or physical/chemical unit processes) and discharge to surface waters shall not be considered innovative waste water treatment processes and techniques except where it is demonstrated that these processes and techniques, as a minimum, meet either the cost-reduction or energy-reduction criterion described in section 6 of these guidelines. Treatment and discharge systems include primary treatment, suspended-growth or fixed-growth biological systems for secondary or advance waste water treatment, physical/chemical treatment, disinfection, and sludge processing. The term "innovative" does not include collector sewers, interceptors, storm or sanitary sewers or the separation of them, or major sewer rehabilitation, except insofar as they meet the criteria in paragraph 6 of these guidelines and are alternatives to conventional treatment works for small communities under §35.915-1(e) or part of individual systems under §35.918.

6. *Criteria for determining innovative processes and techniques.* a. The Regional Administrator will use the following criteria in determining whether a waste water treatment process or technique is innovative. The criteria should be read in the context of paragraph 5. These criteria do not necessarily preclude a determination by the Regional Administrator that a treatment system is innovative because of local variations in geographic or climatic conditions which affect treatment plant design and operation or because it achieves significant public benefits through the advancement of technology which would otherwise not be possible. The Regional Administrator should consult with EPA headquarters about determinations made in other EPA regions on similar processes and techniques.

b. New or improved applications of alternative waste water treatment processes and techniques may be innovative for the purposes of this regulation if they meet one or more of the criteria in paragraphs e(1) through e(6) of this paragraph. Treatment and discharge systems (i.e., systems which are not new or improved applications of alternative waste water treatment processes and techniques in accordance with paragraph 4 of these guidelines) must meet the criteria

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of either paragraph 6e(1) or 6e(2), as a minimum, in order to be innovative for the purposes of these guidelines.

c. These six criteria are essentially the same as those used to evaluate any project proposed for grant assistance. The principal difference is that some newly developed processes and techniques may have the potential to provide significant advancements in the state of the art with respect to one or more of these criteria. Inherent in the concept of advancement of technology is a degree of risk which is necessary to initially demonstrate a method on a full, operational scale under the circumstances of its contemplated use. This risk, while recognized to be a necessary element in the implementation of innovative technology, must be minimized by limiting the projects funded to those which have been fully developed and shown to be feasible through operation on a smaller scale. The risk must also be commensurate with the potential benefits (i.e., greater potential benefits must be possible in the case of innovative technology projects where greater risk is involved).

d. Increased Federal funding under § 35.908(b) may be made only from the reserve in § 35.915-1(b). The Regional Administrator may fund a number of projects using the same type of innovative technology if he desires to encourage certain innovative processes and techniques because the potential benefits are great in comparison to the risks, or if operation under differing conditions of climatic, geology, etc., is desirable to demonstrate the technology.

e. The Regional Administrator will use the following criteria to determine whether waste water treatment processes and techniques are innovative:

(1) The life cycle cost of the eligible portion of the treatment works excluding conventional sewer lines is at least 15 percent less than that for the most cost-effective alternative which does not incorporate innovative waste water treatment processes and techniques (i.e., is no more than 85 percent of the life cycle cost of the most cost-effective noninnovative alternative).

(2) The net primary energy requirements for the operation of the eligible portion of the treatment works excluding conventional sewer lines are at least 20 percent less than the net energy requirements of the least net energy alternative which does not incorporate innovative waste water treatment processes and techniques (i.e., the net energy requirements are no more than 80 percent of those for the least net energy noninnovative alternative). The least net energy noninnovative alternative must be one of the alternatives selected for analysis under section 5 of appendix A.

(3) The operational reliability of the treatment works is improved in terms of decreased susceptibility to upsets or inter-

ference, reduced occurrence of inadequately treated discharges and decreased levels of operator attention and skills required.

(4) The treatment works provides for better management of toxic materials which would otherwise result in greater environmental hazards.

(5) The treatment works results in increased environmental benefits such as water conservation, more effective land use, improved air quality, improved ground water quality, and reduced resource requirements for the construction and operation of the works.

(6) The treatment works provide for new or improved methods of joint treatment and management of municipal and industrial wastes that are discharged into municipal systems.

[43 FR 44049, Sept. 27, 1978, as amended at 44 FR 37596, June 27, 1979; 44 FR 39340, July 5, 1979]

Subparts F–G [Reserved]

Subpart H—Cooperative Agreements for Protecting and Restoring Publicly Owned Freshwater Lakes

AUTHORITY: Sections 314, 501 and 518, Clean Water Act (86 Stat. 816, 33 U.S.C. 1251 *et seq.*).

SOURCE: 45 FR 7792, Feb. 5, 1980, unless otherwise noted.

§ 35.1600 Purpose.

This subpart supplements the EPA general grant regulations and procedures (part 31 of this chapter) and establishes policies and procedures for cooperative agreements to assist States and Indian tribes treated as States in carrying out approved methods and procedures for restoration (including protection against degradation) of publicly owned freshwater lakes.

[45 FR 7792, Feb. 5, 1980, as amended at 54 FR 14359, Apr. 11, 1989]

§ 35.1603 Summary of clean lakes assistance program.

(a) Under section 314 of the Clean Water Act, EPA may provide financial assistance to States to implement methods and procedures to protect and restore publicly owned freshwater lakes. Although cooperative agreements may be awarded only to States, these regulations allow States, through